

Are prescription stimulants contributing to the increase in LGBT identity?

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Abstract

Prescription stimulants (PS) are widely used by children and youth as medication but also for non-medical purposes. Amphetamine stimulants commonly increase sexual drive while also causing vasoconstriction in the sexual organs, thus potentially leading to a shift in the sexual arousal/orgasm focus, consequently, to a shift in sexual fantasies and attractions. PS have also been linked to disturbances in sexual hormones and to an increase in psychosis risk. The effects of PS on sexuality, sexual hormones and cognition beg the question of whether they are contributing to the increase in LGBT identity.

Key words: stimulants, erection, orgasm, sexual hormones, psychosis, LGBT.

Introduction

PS are widely used in the USA. 9.9% of boys age 10-14; 5.2 % of girls age 10-14; 7.1% of boys age 15-19 and 6.1% of girls age 15-19 took PS in 2021. The number of prescriptions increased ~58% from 2012 to 2021.ⁱ

PS include amphetamine and mixed amphetamine salts, methylphenidate, dexamethylphenidate, dextroamphetamine, lisdexamfetamine, methamphetamine etc. Brand names include Adderall (mixed amphetamines), Vyvanse, Ritalin (methylphenidate), Concerta etc. Amphetamines make up around 60% of the PSⁱⁱ, followed by methylphenidates.

PS are mainly used for the treatment of Attention-deficit/hyperactivity disorder (ADHD) in children. Around half of the medicated children continue to take PS into adulthood.ⁱⁱⁱ

PS are also massively used without prescription by college students to improve academic performance and for recreational purposes.^{iv, v} PS act by increasing dopamine and norepinephrine levels in the brain. They increase attention, lower hyperactivity, impulsivity, but also cause side effects.

High sexual drive in the context of weak erection

LGBT persons consistently report higher use of stimulants than heterosexuals, especially to enhance sexual experiences. There is a popular belief that methamphetamine, the most powerful of amphetamine stimulants, causes homosexuality.

There are a lot of anecdotal reports by methamphetamine users who believe that methamphetamine made them gay.^{vi, vii, viii}

Some popular explanations for the increased rate of LGBT among methamphetamine users are that methamphetamine lowers inhibitions; therefore, it uncovers homosexual tendencies that

were always there. It also increases novelty seeking; hence, methamphetamine users engage in a lot of unconventional sexual practices under the effect of the drug. Curiously, while there are many reports of heterosexuals claiming to become gay, there are no equivalent reports of gays claiming to become heterosexual due to meth use. Therefore, there is more than lack of inhibition and novelty seeking at play.

A cocaine (a potent stimulant similar to methamphetamine) user tells of the transformation of his sexual fantasies under the effect of cocaine:

"In my imagination I let the doors open to allow in an extraordinarily beautiful woman to whom I first spoke (without having true auditory hallucinations; I had only visual and somatic hallucinations). I then undressed her and finally had intercourse with her. During this repeated imaginary coitus I could vividly feel my penis entering the vagina and had a sensation of voluptuous pleasure in the loins and penis. This happened 30 times in one night although, of course, without ejaculation. My heart rate, already accelerated, would go up to 140 per minute after each imaginary coitus...As my states of cocaine intoxication became more frequent, my hallucinations became more limited to the sexual area, until one fine day the perversions also made their appearance.

The feelings of voluptuousness [erection] became weaker and weaker, and the images followed each other more quickly than at the beginning. The sexual perversions finally reached such proportions that from then on I was able to see myself as a woman. I would see myself quite willingly as a prostitute having intercourse with several men at the same time, and I dreamed of nothing but sodomy, masochism and sadism.^{ix}"

A sexualized drug user on the r/SEXONDRUGS subreddit comments, "The first cum is usually the best one , the second is good and the third is alright and 4 and 5 are just being off your head , 6 and 7 is a mess of sweat, sore arm muscles, soft dick [no erection], but still cumming.^x"

Amphetamines, similarly to cocaine, during the peak of their effect intensify sexual drive and initially sexual satisfaction as well. This is due to the increase of dopamine levels in the brain. But they also increase norepinephrine levels. Norepinephrine acts as a vasoconstrictor and weakens the erection of the penis. Dopamine as well, in high doses, acts as a vasoconstrictor. As

a result, erectile dysfunction in the context of high drive is very common among methamphetamine users.^{xi, xii, xiii, xiv xv, xvi}

Norepinephrine and dopamine activate the sympathetic nervous system, the “fight-or-flight” response, which is active and useful during the courtship phase of the sexual response. Erection (tumescence) on the other hand is controlled by the parasympathetic nervous system. This system regulates the so called “rest-and-digest” or “feed-and-breed” activities. Thus, a switch over from the sympathetic to the parasympathetic nervous system is necessary for the sexual response to proceed flawlessly.

When faulty erection does not stop the sexual drive and arousal, the focus of arousal and subsequent orgasm would shift from the penis to the adjacent areas, the prostate and the pelvic floor. There would be a corresponding shift of urge/fantasies from stimulation of the penis to stimulation of the prostate, the anal area, hence, a move to autogynephilic/homosexual attractions.

As a user on a meth subreddit put it^{xvii}, “Yeah it makes you f\$%k longer... But it also makes it go limp. For this reason in the gay community a lot of men mysteriously become power bottoms when high...”

Stimulants also increase novelty seeking in susceptible individuals. The dopamine-serotonin imbalance makes for driven, but never fully satisfied persons. They change partners, collect fetishes and progress to more exotic sexual interests in tandem with their stimulant use.

A similar shift in the location of the orgasmic focus from the penis area to the prostate/pelvic floor has been suggested by sissy porn users to happen to them due to porn use.^{xviii}

In females, the focus of orgasm is probably shifted from the vagina to the clitoris and the sexual urges are shifted from intercourse to masturbation.

If this chain of events happens during adolescence, a time of sexual learning and imprinting, the homosexual response may be imprinted.

In the subreddit r/SEXONDRUGS, which has over 90,000 users, there are hundreds of threads with comments on experience, and advice regarding sexualized use of prescription amphetamines. Regardless, research on the sexual use of PS is very scant.

Disturbance of sexual hormones

Stimulants negatively affect the brain-gonad axis, which regulates sexual hormones. Sexual hormones determine the secondary sexual characteristics (the development of the penis, breasts, distribution of hair, fat etc.), strongly influence gendered behavior and sexual attractions. For a normal penile erection a certain minimum testosterone level is also necessary.

In general, disturbances in sexual hormones increase the odds for the development of homosexuality, autogynephilia/autoandrophilia (which can progress to transgenderism), and gender dysphoria.

A lot of research has been done on the effect of stimulants on testosterone and the brain-testes axis in males. Following are the results of some studies:

- 1.20% of the men with long-term ADHD stimulant medication use had testicular hypofunction compared to 0.67% of individuals with ADHD without stimulant medication use and 0.68% of men without ADHD or stimulant medication use.^{xix}
- In men who had had active prescriptions for stimulants prior to tests of semen, stimulant use was associated with decreased total motile sperm count in the setting of decreased semen volume.^{xx}
- Methylphenidate treatment for 30 days increased Sex Hormone Binding Globuline levels and lowered bioavailable testosterone percentages in boys with ADHD.^{xxi} The study suggests that testosterone contributes to ADHD and methylphenidate improves the symptoms also by this effect on sexual hormones.

- Boys with ADHD treated with Ritalin and aged 14.00-15.99 years had significant delay in puberty development (mean Tanner stage, 3.6 for subjects versus 4.0 for controls).^{xxii}

- Experiments on Juvenile male rhesus monkeys with methylphenidate, beginning before puberty, showed impaired pubertal testicular development.^{xxiii} The authors of the experiments suggest that methylphenidate acts probably at the level of the hypothalamus and pituitary, or upstream in the brain.

- Children on Ritalin or Adderall had flat testosterone diurnal rhythms in saliva tests.^{xxiv}

Methylphenidate did not alter testosterone levels in boys age 9.^{xxv} Testosterone production at this age in boys is ~100 times less than at age 13.

Many animal studies have found that chronic methylphenidate exposure negatively influences the morphology of the testes and suppresses testosterone in adolescent rats.^{xxvi, xxvii, xxviii, xxix} Same for amphetamines, cocaine.^{xxx}

Sexual hormones in females

In laboratory animals methylphenidate negatively affects the ovaries and estradiol levels.^{xxxi, xxxii} Females with ADHD who had received stimulant medication during childhood menstruated later than those without a stimulant history.^{xxxiii} Methylphenidate exposure during peri-adolescence delayed puberty.^{xxxiv} Female subjects treated with methylphenidate during peri-adolescence frequently experienced irregular estrous cycles. Long-term use of methamphetamine in women was found to disrupt the hypothalamic-pituitary-ovarian axis.^{xxxv}

Psychosis

Transgender people experience gender non-conformity, distress over their biological sex and a belief that they are the opposite sex. This belief is in essence a delusion. Delusion is “a false belief or judgment about external reality, held despite incontrovertible evidence to the contrary.” It usually comes with gender dysphoria. Many transgender people believe that they are the opposite sex, although they don’t have opposite sex organs and need to take sexual hormones regularly in order to obtain and keep the secondary sexual characteristics of the opposite sex.

Delusions are symptoms typically associated with psychosis and mania, but they may happen without any other sign of psychosis, like in delusional disorder.

Research shows that stimulants increase the risk for psychosis. Individuals taking amphetamine at a dose of 30 mg or higher have a 5-fold increased risk for developing psychosis or mania.^{xxxvi} Amphetamines have 1.65 times the risk of causing psychosis compared to methylphenidate.^{xxxvii}

According to a review done in 2023, methylphenidate can increase the risk of psychosis, particularly when taken in high doses.^{xxxviii} The use of stimulants may lead to a lasting vulnerability to psychosis.^{xxxix}

The gender delusion may thus be a side effect of stimulant use.

In susceptible persons, due to sensitization, even low doses of repeatedly consumed stimulants can cause symptoms encountered at higher doses.

Chronic sleep deprivation also can cause psychosis. The symptoms of sleep deprivation have a great overlap with the symptoms of ADHD. Forgetfulness, the inability to pay attention, restlessness are symptoms of ADHD and sleep deprivation. Stimulants are used by children with ADHD, by sleep deprived shift workers, military, students so as to increase alertness, focus, but they mask the effect of sleep deprivation on the brain and allow the user to continue to be sleep deprived. Most studies show a negative effect of stimulants on sleep.^{xl}

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